



United States
Environmental Protection Agency

TECHNICAL DIRECTION DOCUMENT (TDD) FOR ERRS

(This task order is issued subject to all terms and conditions of the contract identified in Block 2)

1. DATE OF ORDER: XXXXXX	2. CONTRACT NUMBER: EP-S4-16-04
3. TASK ORDER NUMBER: XXXX	
4. TDD NUMBER: xxx	5. TDD CEILING AMOUNT: \$50,000
6a. ISSUED TO CONTRACTOR (Name, Address, Zip Code) Environmental Restoration LLC 1666 Fabick Drive Fenton, MO 63026	7a. ISSUED BY: ORDERING OFFICE (Name, Address, Zip Code) US EPA REGION 6 1445 Ross Avenue Dallas TX 75202
6b. PROGRAM MANAGER (Name and Phone Number) Evan Wortman 303-382-1258	7b. TASK MONITOR (COTR/OSC) (Name and Phone Number) - Primary OSC/TOCOR: David Robertson, 214 665 7363 - Alternate OSC/TOCOR(s): XXXXXXXX
8. PROJECT TITLE & LOCATION: Fansteel Metals/FMRI – Phase 2 10 Tantalum Place Muskogee, OK, zip	9. CONTRACTOR REQUIRED ON SITE: Coordinate with Primary OSC/TOCOR
	10. REQUIRED WORK COMPLETION DATE: XXXXXXXXXX

11. STATEMENT OF WORK (The Contractor shall furnish necessary materials, services, facilities and otherwise do all things necessary for, or incident to, the performance of the work set forth below):

Site Background Information:

Fansteel (FMRI, or the Site) is bound to the east by the Arkansas River (Webber Falls Reservoir), to the south by the East Shawnee Bypass, to the west by the Muskogee Turnpike, and to the north by undeveloped land owned by the Muskogee City-County Port Authority. The remaining surrounding area consists of a state college, industrial/commercial properties, and residential properties. Fencing secures the site but can be accessed through a main entrance on the western boundary of the property. The Cherokee Nation and Muskogee (Creek) Nation, are within a four-mile radius of the site and may have areas of cultural significance. Fansteel operated a metal processing facility which produced tantalum and columbium metal products from 1956 to 1989. The raw material (ore) used for tantalum and columbium production contained uranium and thorium as naturally occurring trace constituents. The concentrations of natural uranium and natural thorium were sufficient to cause the ores and slags to be classified as source materials by the Atomic Energy Commission (AEC), which originally issued License No. SMB-911 in 1967 to Fansteel, Inc.

From 1999-2001, Fansteel attempted to resume operations and a new chemical extraction process was implemented and then suspended in late 2001 due to process difficulties and a decline in the price of tantalum. In 2004, Fansteel went into bankruptcy. As part of a court-ordered reorganization, a separate subsidiary, FMRI, was formed for the sole purpose of site cleanup and decommissioning.

Previous EPA Removal Activities:

The Site was identified as a potential hazardous waste site and entered into the Superfund Enterprise Management System (SEMS) under identification number OKD007221831. EPA teams conducted a Site Inspection (SI) on October 7, 1981. During the SI, the team collected one soil and one sediment sample from an outfall and seepage location from the Site to the Arkansas River. These samples were analyzed for metals, fluorides, and polychlorinated biphenyls (PCBs). Based on the analytical results, an observed release to surface water was documented. On June 12, 2018, the Oklahoma Department of Environmental Quality (ODEQ) performed a Preliminary Reassessment, the results of which indicated that further sampling at the Site was warranted. EPA produced an Expanded Site Inspection Report (ESI) in November 2019. The report found elevated toxic metals and elevated radioactive isotopes in surface water and groundwater.

In August, 2018, EPA conducted a removal action to dispose of one tank of ammonium hydroxide (estimated to contain 3,000 gallons) and the contents of an on-site wet chemistry laboratory.

In April, 2019, EPA conducted an Expanded Site Investigation (ESI). Sampling conducted as part of this ESI identified a TCE plume on the north side of the property and elevated metals and radioactive isotopes in several areas throughout the property.

In July, 2019, EPA conducted a gamma radiation survey of the property. The survey identified several radioactive hotspots: The Former Pond 2 trench (45X background); Sodium Reduction Building (gamma radiation not measured); Partially covered soil stockpile near Building 4 (27X background); and two anomalous readings – the Pond 6 levee (25X background) and outside the Sodium Reduction Building (17X background).

The contractor shall: Conduct a site walk with the OSC if needed. Assess the site. Determine the logistical requirements. Assess/sample/evaluate: former Pond 2 for suitability as a permanent repository for on-site radioactive isotopes and other metals in the form of contaminated soil, waste, or Work In Progress (WIP) material; bags/supersacks of contaminated soil in the Sodium Reduction Building for suitability as fill or disposal in any on-site repository and/or cost of off-site disposal; partially covered soil stockpile near Building 4 for suitability as fill or disposal in any on-site repository and/or cost of off-site disposal; radiation anomalies noted at the Pond 6 levee and outside the Sodium Reduction Building for removal and suitability as fill or disposal in any on-site repository and/or cost of off-site disposal.

The contractor shall compare locations on-site to determine the best location for construction of an on-site repository. The contractor shall consider: cost of moving material to repository; ability of repository to protect groundwater, surface water, soils, human health and the environment; ability of repository to withstand potential flooding and/or erosion from adjacent waterways; the potential to use chemical additives in the repository to reduce future risk by reducing mobility of radioactive isotopes. For each waste proposed for on-site disposal, the contractor shall provide a cost comparison for off-site disposal.

Deliverable(s): A final report including the recommended technique(s) for the consolidation and final disposal of all identified wastes in the Canning Building. Include feasible alternatives, if any, that were considered. Include Cost Estimates, duration, further sampling requirements, equipment requirements including any special equipment that may require advanced scheduling or other considerations, and expected labor required. Include prospective disposal facilities (does not require an agreement at this time).

Identify any obstacles or additional requirements necessary to accomplish removal of the material and disposal. (A Workplan is not required at this time. EPA will verify and select the technique to be used.)

Signed by:

Contracting Officer:

Date